



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,936	12/08/2003	Kia Silverbrook	ZG186US	9659

24011 7590 05/18/2005

SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

EXAMINER

WILLIAMS, KEVIN D

ART UNIT	PAPER NUMBER
----------	--------------

2854

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,936

Applicant(s)

SILVERBROOK

Examiner

Kevin D. Williams

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/8/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-20 are objected to because of the following informalities:

In claim 1, line 7, the phrase "slots in a lower a chip restraining layer" is awkward.

Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/728926. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of copending Application No. 10/728926 disclose all of the limitations of the claims in the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-8, 10, 13, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Boyd (US 6,322,206).

Boyd teaches a laminated ink distribution structure 12 for a printhead comprising a laminated stack 72,73 having a first layer 72 in which is formed a number of first holes 86, each first hole being in registry with a supply of ink or air (col. 8, lines 8-39); the stack having a number of subsequent layers, each subsequent layer having formed in it, vertical passages and transverse channels (Figs. 13-16) for bringing ink, via the holes of

Art Unit: 2854

the first layer, to one of a number of printhead chips 30 located as an array that is carried by an array of slots 84 in a lower chip restraining layer, printhead chips located in the slots; each chip having a large number of ink ejecting nozzles on a lower surface; each nozzle supplied by an ink passage that passes through a chip; each ink passage supplied with ink from an opening or slot formed in a layer of the stack above the chip (Fig. 17), the first and subsequent layers are adhered to one another, a distribution molding, the distribution molding having a longitudinal axis and a number of elongated ducts 202,204,206 running in parallel along the axis; the ducts supplying inks to the first layer of the ink distribution structure, a duct cover (bottom wall of 12 as shown in Fig. 2) in which is formed a number of inlet ports (col. 4, lines 41-45) which are adapted to receive liquid ink; the duct cover sealing against the distribution molding and supplying, via cross flow ink channels, the elongated ducts, subsequent layers in the stack have between them an electrically conductive film 64 having one end which is electrically connected to the chips, the film is flexible and extends out of the stack to make electrical contact with a printhead controlling printed circuit board 22, recesses in the lower chip restraining layer to accommodate the film (Fig. 4), each chip is associated with a nozzle guard assembly in which is formed an array of microapertures 48 that are aligned with nozzles of the chips, so that an ink drop ejected at high speed from the nozzle array passes through a microaperture, the stack has a longitudinal axis and the individual printhead chips and the slots in the final layer are arranged at an angle to the longitudinal axis (Fig. 2), with a slight overlap between each print chip, the distribution molding is sandwiched and sealed between the duct cover and the stack 34 and

Art Unit: 2854

supported within a chassis; the film extending out of the stack to make electrical contact with a printhead controlling printed circuit board which is carried by the chassis; a film backing pad⁶² maintaining the film in electrical contact with an undersurface of the printed circuit board.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd in view of Miura (US 4,555,717).

Boyd teaches the claimed invention except for the stack further comprising a laminated manifold with bifurcated channels for distributing inks and air to a number of delivery locations associated with each of the printhead chips, where the first layer and subsequent layers comprise air distribution passages which carry compressed air for discharge at locations between each of the printhead chips and the nozzle guards.

Miura teaches a stack further comprising a laminated manifold (Fig. 11a) with bifurcated channels 7,9 for distributing inks and air to a number of delivery locations associated with each of the printhead chips, where a first layer and subsequent layers comprise air distribution passages 7,9 which carry compressed air for discharge at locations between each of the printhead chips and the nozzle guards.

Art Unit: 2854

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Boyd to have the air passages in order to provide an effective and durable means of ejecting the ink from the printheads.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boyd in view of Waller (US 6,250,738).

Boyd teaches the claimed invention except for the stack further comprising layers of a micro-molded acetal plastic adhered to one another and forming a distribution network in which transverse channels in one or more layers lead to and from through holes which carry ink or air between layers.

Waller teaches a stack comprising layers of a micro-molded acetal plastic (col. 8, lines 19-21) adhered to one another and forming a distribution network in which transverse channels in one or more layers lead to and from through holes which carry ink or air between layers.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Boyd to have the micro molded plastic as taught by Waller, in order to utilize a durable yet inexpensive material for the distribution structure.

Allowable Subject Matter

9. Claims 15-20 would be allowable if rewritten to overcome the objections set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of the allowability of claim 15 is the limitation of a longitudinal air duct having an air valve formed as a channel with a series of apertures in its base, the apertures corresponding to air passages formed in the air duct to bring the apertures into and out of alignment with the passages to selectively allow pressurized air through and into the stack, in combination with the other claimed structure.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin D. Williams whose telephone number is (571) 272-2172. The examiner can normally be reached on Monday - Friday, 8:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2854

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KDW

May 15, 2005

A handwritten signature in black ink, appearing to read "Andrew H. Hirshfeld", is written over a printed name block.

ANDREW H. HIRSHFELD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800